

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

**P. I. NO. 0010782
District 7**

Section 108.03—Prosecution and Progress

Delete section 108.03 and substitute the following:

A. General Requirements

The Contractor shall provide a project schedule using the critical path method (CPM).

The schedule shall show the various activities of work in sufficient detail to demonstrate a reasonable and workable plan to complete the work in the specified contract time.

The Contractor shall be responsible for ensuring that all work sequences are logical and that the schedule indicates a coordinated plan. The schedule shall indicate the order and interdependence of activities and the sequence for accomplishing the work.

The schedule shall include sufficient detail to allow the Engineer to readily identify the work and evaluate the progress of each activity. The schedule shall include activities for all work to be performed by the Contractor, subcontractors and suppliers. The schedule shall also include activities specific to the project to be performed by the Department, other governmental bodies, regulatory agencies, utilities and any others necessary to complete the work. The schedule shall reflect the scope of work and including, but not limited to design, construction phasing, maintenance of traffic requirements, environmental requirements, utility and railroad coordination, coordination with other contractors, intermediate completion dates, the contract completion date, and any other work or milestones established in the contract. The schedule shall include activities for working and shop drawing preparation, Contractor submittals, submittal review time by the Department, material procurement and fabrication, and the delivery of materials, plant, and equipment and other similar activities.

Failure by the Contractor to include any element of work or to accurately reflect the relationships among the work activities required for performance of the Contract does not excuse the Contractor from completing all work within the specified time at no additional time or cost to the Department, notwithstanding the acceptance of the schedule by the Department.

The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the Project in accordance with the Plans and Specifications within the time set forth in the proposal and in strict conformance with the CPM of record. The CPM of record shall be the Contractor's work plan for completing the entire Contract as specified in the Contract Documents.

B. Definitions

The following definitions shall be applied to the terms used in this specification and shall not be taken to modify in any way the definitions in 101.01 through 101.83.

Activity – A discrete, identifiable task or operation that takes time, has a definable start and stop date, furthers the work's progress, and can be used to plan, schedule, and monitor a project.

Activity Calendar – A set of days assigned to a specific activity on which work for the activity may be scheduled.

Activity Calendar Day – A day on which work is scheduled to be performed on a specific activity.

Activity Identification (ID) Number – A unique, alphanumeric, identification code assigned to a specific activity.

Activity Network Diagram – A graphic representation of a CPM schedule, including a timescale, which shows the relationships among activities.

As-built Schedule - The last quarterly update schedule depicting the actual start and finish dates for each activity.

Bar Chart – A graphic representation of a schedule without relationship lines displayed. A timescale appears along the horizontal axis.

Baseline Schedule – A baseline CPM schedule showing the original plan to complete the entire project.

Calendar Day – As defined in 101.12.

Calendar ID – An alphanumeric identification code assigned to an activity calendar.

Constraint – A restriction imposed on the start or finish dates of an activity that modifies or overrides the activity's logic relationships.

Contract Completion Date – The original date or revised date specified in the contract for completion of the project.

Controlling Activity – Activity or work item having the least amount of float, which if not completed as scheduled would result in delaying the scheduled completion date of the project.

CPM of Record – A baseline, quarterly update, or a revised schedule accepted by the Department

Critical Activity – Any activity on the critical path.

Critical Path – The longest path of activities which determines the scheduled completion date of the project.

Data Date – The first day in a baseline schedule and the first day for performance of the work remaining in a quarterly update schedule or a revised schedule.

Free Float – The amount of time an activity can be delayed and not delay a successor.

Intermediate Completion Date – A date specified in the contract for completion of an interim milestone, phase or other portion of the project.

Milestone – An activity with no duration that is typically used to represent the beginning or end of the project or an interim phase. Includes, but is not limited to, intermediate completion dates and the contract completion date.

Quarterly Update Schedule – A schedule produced by incorporating the project's actual progress into the baseline schedule or a revised schedule.

Open End – The condition that exists when an activity has either no predecessor or no successor, or when an activity's only predecessor relationship is a finish-to-finish or only successor relationship is a start-to start.

Original Duration – The estimated time, expressed in activity calendar days, required to perform an activity.

Predecessor – An activity that is defined by schedule logic to precede another activity. A predecessor may control the start or finish date of its successor.

Relationship – The interdependence among activities. Relationships link an activity to predecessors and successors.

Remaining Duration – The estimated time, expressed in activity calendar days, required to complete an activity.

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Revised Schedule – A revised schedule that includes a significant modification to the schedule’s logic or activity durations.

Schedule – A Critical Path Method (CPM) schedule showing activities organized by relationships to depict the plan for execution of a project.

Scheduled Completion Date – The completion date forecast by the CPM schedule. The schedule may also forecast intermediate completion dates for milestones, phases, or other portions of the project.

Successor – An activity that is defined by schedule logic to succeed another activity. The start or finish date of a successor may be controlled by its predecessor.

Total Float – The amount of time an activity can be delayed and not delay the contract completion date.

C. Submissions

1. Baseline Schedule

The Contractor shall submit a baseline schedule to the Engineer for acceptance with 14 days of Notice to Proceed. The schedule shall show milestones for intermediate and contract completion dates no later than those specified in the contract.

2. Quarterly Updates and Revised Schedules

The Contractor shall submit a quarterly update to the baseline schedule in accordance with 108.03.D beginning with the first quarter after acceptance of the baseline schedule. The update schedule shall depict the status of the project at the end of the quarter just completed. The update schedule shall reflect a new data date, work performed up to, but not including the new data date, and the plan for completing the remaining work.

The Contractor shall submit a revised schedule when any of the following occur:

- (a) The critical path is more than 7 calendar days behind.
- (b) There is a significant difference, as determined by the Engineer, between the scheduled and actual work sequence.

The Engineer will notify the Contractor in writing when a revised schedule is required due to any of the reasons listed above. The Contractor shall submit a revised schedule in accordance with 108.03.D no later than 7 calendar days after notification by the Engineer. The revised schedule shall depict the status of the project on the date of the Engineer’s notification for a revised schedule. The schedule shall reflect a new data date, work performed up to, but not including the new data date, and the plan for completing the remaining work.

The Engineer may request a revised schedule due to changes in the work. The Engineer will notify the Contractor in writing when a revised schedule is requested. Changes that may initiate a request for a revised schedule include, but are not limited to:

- (a) An increase or decrease in the amount of work due to extra work or force account work.
- (b) An approved increase or decrease in contract time.
- (c) A change in the phasing or contract time of the project.

When a revised schedule is requested by the Engineer, the Contractor shall submit a revised schedule in accordance with 108.03.D no later than 7 calendar days after notification by the Engineer. The revised schedule shall depict the status of the project on the date of the Engineer’s request for a revised schedule. The schedule shall reflect a new data date, work performed up to, but not including the new data date, and the plan for completing the remaining work.

If a revised schedule is not submitted within 7 days of written notification, the Engineer may withhold all Contract payments until the revised schedule is submitted.

The Contractor may request to submit a revised schedule to reflect changes in the plan to perform the work. When a revised schedule is proposed by the Contractor, the Contractor shall provide the Engineer with a written notice 7 calendar days prior to submitting the revised schedule. The notice shall include a description of the changes to be made and the reason for the changes. The revised schedule shall be submitted in accordance with 108.03.D and shall depict the status of the project on the date of the Contractor’s written notice to the Engineer. The schedule shall

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reflect a new data date, work performed up to, but not including the new data date, and the plan for completing the remaining work.

A revised schedule submitted at the request of the Contractor will not be considered to be the CPM of record until accepted by the Engineer.

3. As-Built Schedule

The Contractor shall submit an as-built schedule in accordance with 108.03.D no later than 30 calendar days after completion of contract work. The as-built schedule shall depict the actual start and finish dates for each activity.

The as-built schedule shall contain a written certificate signed by the Contractor's project manager stating "To my knowledge, the enclosed as-built schedule reflects the actual start and finish dates of the actual activities for the project contained herein."

4. Acceptance of Schedules

The Engineer will provide written notice within 14 calendar days of receipt of a baseline, quarterly update, revised or as-built schedule that the schedule is either accepted or rejected or that additional information is requested. The Engineer's written notice will identify the reasons for rejection or what additional information is requested. Within 14 calendar days of the Engineer's written notice, the Contractor shall submit a corrected schedule that addresses the reasons for rejection and provides any additional information requested. If the Engineer does not respond in writing to the submittal of a schedule within the allotted time, the schedule shall be considered to be accepted.

The Engineer's review of a submitted schedule will be for compliance with the specifications. Acceptance by the Engineer does not relieve the Contractor of responsibility for the accuracy or feasibility of the schedule. Acceptance of a schedule does not constitute a modification of the contract or endorsement or validation of the Contractor's logic, activity durations, or assumptions in creating the schedule. Acceptance of a schedule does not guarantee that the project can be performed or completed as scheduled. Omissions and errors in a schedule shall be corrected by submittal of a revised schedule and will not entitle the Contractor to additional compensation or contract time.

5. Float and Scheduled Completion

Total float belongs to the project and shall be a shared commodity between the Contractor and the Department. Float is not for the exclusive use or benefit of either party. Either party has full use of float until it is depleted.

Float generated during the course of the project due to the efficiencies of either party shall be considered to be part of total float.

Negative float generated during the course of the project will not be a basis for requesting time extensions. Time extension requests shall be developed in accordance with Section 108.07.E.

A schedule may indicate a scheduled completion date in advance of the contract completion date. However, the Department shall not be liable in any way for the Contractor's failure to complete the project prior to the contract completion date. Any costs incurred by the Contractor as a result of such a failure shall be the responsibility of the Contractor. The Contractor will not be entitled to claim or recover any such cost from the Department.

An accepted schedule that indicates a scheduled completion date in advance of the contract completion date will be considered to have total float equal to the time between the scheduled completion date and the contract completion date.

When a contract has an incentive/disincentive date for all or a portion of the work, and the Contractor elects to show a completion date in advance of the contract completion date, the Contractor shall show an activity in the schedule for accruing incentive. The duration of this activity shall be the length of time, in calendar days, between the Contractor's scheduled completion date and the contract completion date. The Contractor may assign the activity a duration up to and including the number of days necessary to earn the specified maximum incentive. Any time between a scheduled completion date earlier than the maximum incentive date and the maximum incentive date will be considered to be part of total float.

D. Schedule Technical Requirements

The schedule shall be generated using software completely compatible with MS Project 2007 or Primavera version P6 7.0 or later version.

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The schedule shall at a minimum include codes for project phase, location of work and responsibility for each activity. Additional coding fields may be used if approved by the Engineer.

Each schedule submittal shall include the following:

1. A letter of transmittal identifying the schedule submission.
2. A narrative report in accordance with 108.03.E
3. A compact disc (CD) containing an electronic file of the schedule in MS Project 2007 or Primavera version P6 7.0 or later version format that is completely compatible with and may be directly imported into MS Project 2007 or Primavera version P6 7.0 and later version without any loss or modification of data or need for any conversion or other software. Any electronic schedule file submitted by the Contractor that is not completely compatible with the Department's MS Project 2007 or Primavera version P6 7.0 or later version software will be rejected.
4. The critical path in a bar chart format created using the longest path sort, grouped (banded) by phase and sorted by early start dates.
5. A full color plot of the activity network diagram on 11 x 17 or 22 x 34 paper in landscape layout in a time scale suitable to provide sufficient detail. Other formats may be accepted with prior approval by the Engineer. Arrows shall be used to show the relationships between activities on the activity network diagram. The critical path and critical activities shall be plotted in red.
6. Each page of the schedule plot shall at a minimum include a column for each of the following:
 - a. Activity ID
 - b. Activity description
 - c. Original duration
 - d. Remaining duration
 - e. Early start
 - f. Early finish
 - g. Late start
 - h. Late finish
 - i. Total Float
 - j. Percent Complete
7. Each page of the schedule plot shall include a legend with the following information:
 - a. Contract number
 - b. District
 - c. Name of the Contractor
 - d. Project location
 - e. Notice to Proceed date
 - f. Original contract completion date
 - g. Revised contract completion date (as applicable)
 - h. Data date
8. A predecessor/successor report with the following information for each activity:
 - a. Activity ID and description
 - b. Original duration
 - c. Remaining duration

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- d. Calendar ID
- e. Early start date
- f. Early finish date
- g. Late start date
- h. Late finish date
- i. Total float
- j. Relationship type
- k. Lags
- l. Constraints

Each activity shown on the CPM schedule shall meet the following requirements:

1. Each activity shall have a unique activity identification number which shall not be modified or re-assigned to different work activities once assigned to an activity in the network logic diagram.
2. Each activity shall have a unique description specifying the work type and location.
3. Each activity description shall describe work associated with only one operation.
4. All non-procurement activities shall have an original duration not to exceed 20 calendar days unless approved by the Engineer.
5. Activities for submittal reviews by the Department shall be 30 calendar days unless stated otherwise in the contract.
6. Each activity, except the first activity, shall have at least one predecessor.
7. Each activity, except the last activity, shall have at least one successor.
8. Activity relationships shall be finish-to-start, finish-to-finish or start-to-start with no leads or lags.
9. The use of lags with a negative value shall not be allowed on any activity relationship type.
10. All activities shall have their start and finish tied to the logic of the schedule.
11. Activities shall not have constraints unless approved by the Engineer, with the exception of, when used for “Project Start”, and “Project Completion”.
12. Each activity shall have an activity calendar identified. A project may have more than one activity calendar, but only one activity calendar shall be applicable to each activity.
13. Seasonal weather conditions shall be considered and included in the planning of all work.

The CPM schedule shall only be calculated using retained logic. Use of Progress Override option will not be allowed. Schedule duration shall be contiguous. Total float shall be calculated based on finish dates.

E. Narrative Reports

The Contractor shall submit a narrative report with each schedule submission pertaining to the work identified in the schedule. For the baseline schedule submittal, the narrative report shall include the following:

1. An explanation of the overall plan to complete the project, including where the work will begin and how the work and crews will progress through the project.
2. An explanation of the use and application of the workdays per week, number of shifts per day, number of hours per shift, holidays observed and how the schedule accommodates adverse weather days for each month.
3. Description of the work to be completed each season for multi-year projects.

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4. A description of any problems or issues.
5. A description of any delays, including identification of any delayed activities, the type of delay, the cause of the delay, the effect of the delay on other activities and project milestones and identification of actions required to mitigate the delay.
6. A description of the critical path.
7. An explanation of the use of any allowed constraints, including the reason and purpose for each constraint.
8. A statement describing the status of any required permits.
9. A statement describing the reason for the use of each lag.

For each quarterly update and revised schedule submittal, the narrative report shall include the following:

1. A description of the status of the scheduled completion date, focusing on any changes since the previous submission.
2. An explanation if the scheduled completion date is projected to occur after the contract completion date.
3. An explanation if any contract milestone dates are projected to occur after the dates set out in the contract.
4. A description of the work performed since the last schedule update.
5. A description of unusual labor, shift, equipment or material conditions or restrictions encountered.
6. A description of any problems encountered or anticipated since the last schedule update.
7. A statement that identifies any current and anticipated delays. A discussion of delays in the narrative report does not constitute notice in accordance with 105.13.B.9. The statement should include identification of the delayed activity, the type of delay, the cause of the delay, the effect of the delay on other activities and project milestones and identification of actions required to mitigate the delay.
8. A description of the critical path.
9. A description of changes in the critical path and any contract milestone dates from the last schedule update.
10. A report that identifies the changes made between the previous schedule update and the current proposed schedule, including, but not limited to:
 - a. Data date
 - b. Completion date
 - c. Activity code assignments
 - d. Schedule calculation options
 - e. Activity descriptions
 - f. Added activities
 - g. Deleted activities
 - h. Added activity relationships
 - i. Deleted activity relationships
 - j. Activity original durations
 - k. Activity remaining durations
 - l. Activity actual start and finishes
 - m. Percent complete
 - n. Constraints
 - o. Activity coding for phase, location and assigned contractor

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11. A statement providing status of pending items, including, but not limited to:
 - a. Permits
 - b. Change orders
 - c. Time extension requests

F. Extension of Contract Time

Any request for an extension of time made pursuant to Specification 108.07.E shall include the Contractor's own analysis, using a method approved by the Engineer, of the requested time using the CPM of Record and as-built information of work actually performed. This information must be submitted in addition to any information required by Specification 108.07.E to allow the Department to perform an analysis by comparing the CPM of Record at the time with as-built information of the work actually performed.

G. Measurement

Baseline schedules, as-built schedule, quarterly update schedules, and revised schedules will not be measured separately for payment.

H. Payment

Prior to the Department authorizing land disturbing activities, all costs necessary to prepare and revise schedules, including but not limited to the cost of the project scheduler, shall be included in DESIGN COMPLETE.

After the Department authorizes land disturbing activities, all costs necessary to prepare and revise schedules, including but not limited to the cost of the project scheduler, shall be included in CONSTRUCTION COMPLETE.